REMARKS

No claims have been canceled, amended or added in this paper. Therefore, claims 6-7 are pending and are under active consideration.

Claim 6 stands rejected under 35 U.S.C. 103(a) "as being unpatentable over Hayka et al (US 5,688,118) in view of Hennion (US 2002/0082724)." In support of the rejection, the Patent Office states the following:

> Regarding claim 6, Hayka discloses a simulation system for dentistry wherein forces can be exerted on a tooth secured in a model of a jaw using a tool in order to examine or work on the tooth (See Col. 6, 33-39). Hayka further discloses a single sensor measuring device fixed underneath the model of the jaw (See Col. 11, 24-37) constructed as six-component force-moment sensor (See Col. 9, 16-56), Wherein the components of force (the resistance of the region that is being drilled) is transferred to the processing unit (e.g. display unit 68). The data processor further comprises a memory (See Fig. 4 and Col. 10, 9-59). Hayka does not explicitly disclose that the forces are converted into electrical measuring signals. However, Hayka discloses that both mechanical and electrical sensors can be used to simulate the region of a tooth being drilled. Therefore, Hayka inherently includes electrical measuring signals.
>
> Hayka does not specifically disclose a plurality of reference-force-time curves of different dental treatment steps. However Hennion discloses a force feedback control system and method, wherein the forces applied to two models are synchronized with each other through comparison of the direction of the forces and the time they are applied (See Abstract and [0059]-[0061]). Therefore it would have been obvious to one of ordinary skill in the art to incorporate the features of Hennion's invention into the system and method of Hayka in order to design a system with a more accurate feedback data.

Applicants respectfully traverse the subject rejection. As noted in a previous response, it is an object of the present invention to provide a dentistry training device by means of which force-determined operations, either with a tool or without a tool, can be practiced on a tooth or on a

mandible. In accordance with the teachings of the present invention, such a dentistry training device involves a jaw model that is fixed to a single sensor, which sensor is constructed as a six-component force-moment sensor and sends measuring signals to a data processor. The measuring signals are imaged as forces according to their magnitude and direction in the data processor. Furthermore, the data processor comprises a data memory in which a plurality of reference-force-time curves of different dental treatment steps are stored as a table of values that can be called up. In addition, a program is provided, which controls the data processor such that a selected reference-force-time curve and the actual force-time curve of the simulated dental treatment can be represented on an optical display.

Hayka et al. is also directed at a dentistry training device. However, in contrast with the claimed dentistry training device, the dentistry training device of Hayka et al. is not designed to generate force-time curves for the forces exerted by a user on a jaw model and then to display these force-time curves with reference force-time curves. This is because Hayka et al. is designed simply to provide a user with a simulation as to what a drill will feel like as the drill penetrates different layers of a tooth, as opposed to testing the user's use of the drill and providing feedback as to how the user's use differed from proper use of the drill. For example, the device of Hayka et al. automatically controls the speed at which a drill rotates based on the position and orientation of the drill. Since the speed of rotation of the drill dictates the sound and hand-feeling associated with its rotation, a sound and hand-feeling simulation of drilling a real tooth, having layers and structures of different hardness, is thus achieved.

The Patent Office apparently acknowledges that Hayka et al. fails to teach or to suggest a plurality of reference-force-time curves of different dental treatment steps. Nevertheless, in an effort

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to cure the deficiencies of Hayka et al., the Patent Office looks to Hennion et al. However, Applicants note that Hennion does not even relate to a dental treatment simulation system. Moreover, Applicants respectfully submit that, in view of the principle of operation of the Hayka system, there would have been no reason for a person of ordinary skill in the art to have modified the Hayka system to use reference-force-time curves.

Accordingly, for at least the above reasons, the subject rejection should be withdrawn.

Claim 7 stands rejected under 35 U.S.C. 103(a) "as being unpatentable over Hayka et al. (US 5,688,118) in view of Hennion (US 2002/0082724) further in view of Azerad et al. (US 2004/0091845)." In support of the rejection, the Patent Office states the following:

> Regarding claim 7, Hayka/Hennion do not specifically disclose generating acoustic signals corresponding to a specific force/time. Azerad discloses acoustic signal patterns stored in correlation with the measured force/time course are retrieved and displayed by an acoustic display unit, wherein the multitude of sound samples are stored in the data memory in which case by means of a program subject to the actual force/time course of the simulated tooth treatment a sound sample belonging to it can be displayed (See P. 4, [0073]). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the features of Azerad's invention into the system and method of Hayka/Hennion in order to create a more realistic environment for training the users.

Applicants respectfully traverse the subject rejection. Claim 7 depends from claim 6. Claim 6 is patentable over Hayka et al. in view of Hennion for at least the reasons given above. Azerad et al. fails to cure all of the deficiencies of Hayka et al. and Hennion with respect to claim 6. (Applicants incorporate herein by reference their comments regarding Azerad et al. from previous responses.) Therefore, based at least on its dependency from claim 6, claim 7 is patentable over the instant combination of Hayka et al., Hennion, and Azerad et al.
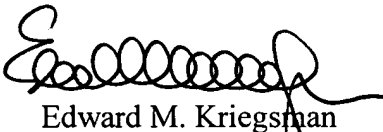
Accordingly, for at least the above reasons, the subject rejection should be withdrawn.

In conclusion, it is respectfully submitted that the present application is in condition for allowance. Prompt and favorable action is earnestly solicited.

If there are any fees due in connection with the filing of this paper that are not accounted for, the Examiner is authorized to charge the fees to our Deposit Account No. 11-1755. If a fee is required for an extension of time under 37 C.F.R. 1.136 that is not accounted for already, such an extension of time is requested and the fee should also be charged to our Deposit Account.
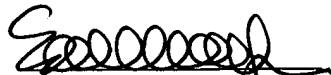
Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on May 20, 2009   .

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